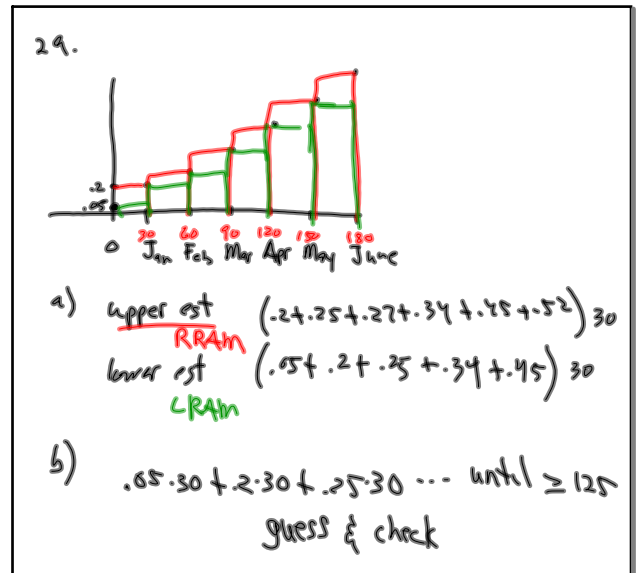
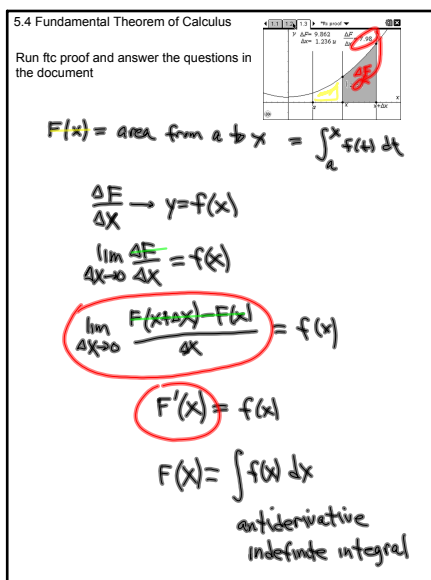


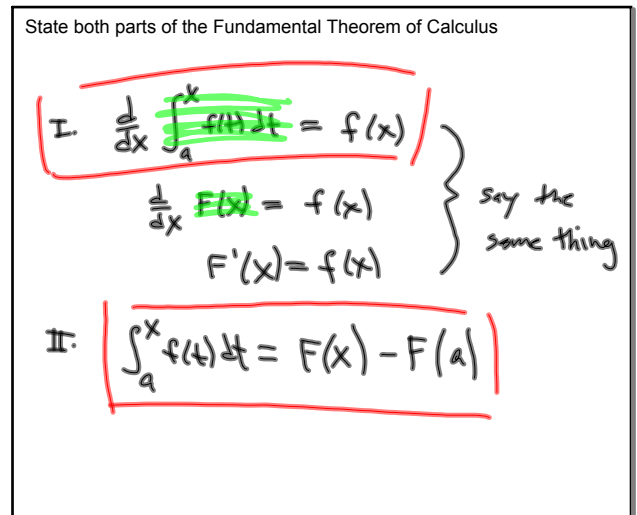
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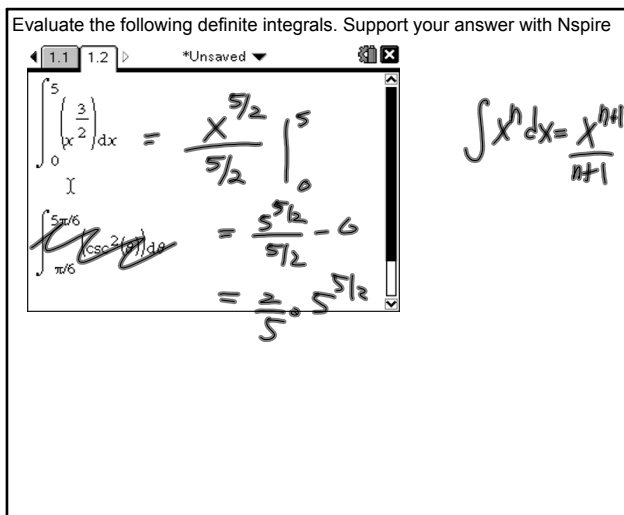
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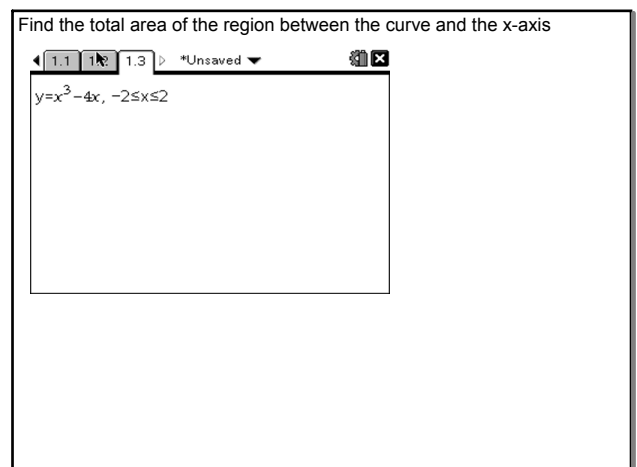
Nov 13-3:06 PM



Nov 13-4:57 PM



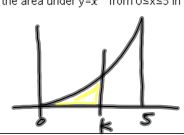
Nov 13-3:35 PM



Nov 13-4:17 PM

5.4 cut area in half

Find the value of k so that the line $x=k$ divides the area under $y=x^2$ from $0 \leq x \leq 5$ in half.


$$\int_0^k x^2 dx = \frac{1}{2} \int_0^5 x^2 dx$$
$$\frac{x^3}{3} \Big|_0^k = \frac{1}{2} \cdot \frac{x^3}{3} \Big|_0^5$$
$$\frac{k^3}{3} - \frac{0^3}{3} = \frac{1}{2} \cdot \frac{5^3}{3} - \frac{1}{2} \cdot \frac{0^3}{3}$$

solve for k

$$\frac{k^3}{3} = \frac{125}{6}$$

Nov 13-4:23 PM